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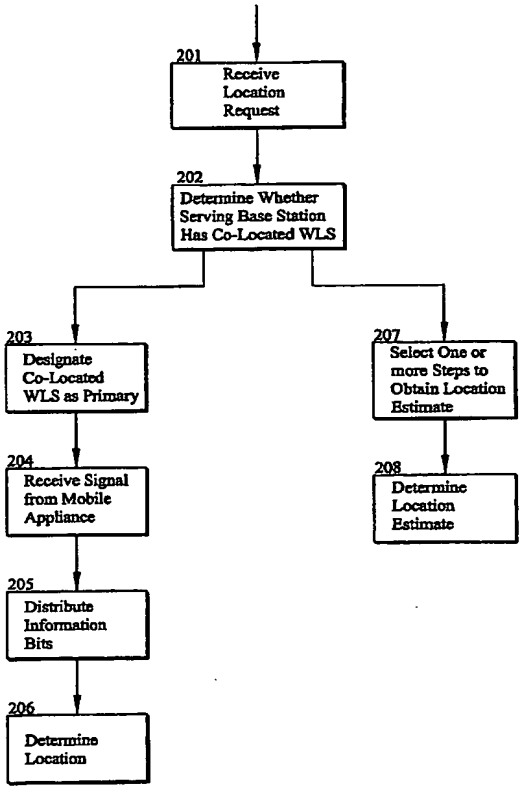

(57) Abstract: A method for use in a wireless communication system with a network overlay geolocation system having a sparse deployment network in which base stations of the wireless communication system may or may not have a co-located wireless location sensors (WLS). The method enables detection and measurement of a target mobile's signal independently from a primary WLS located at the base station serving the target mobile, which enable location estimated in previous "no location" areas. The method selects based on predetermined criteria from one or more of several techniques that aid in the detection and determining a location for the target mobile. The method selects from timing advance, power levels, pattern matching, EOTD, speed, and pseudo range measurements to estimate the location of the mobile. The method also uses ambiguity function processing to detect the signal and measure an attribute of the signal.

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